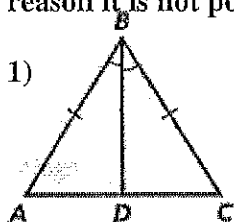


Geometry
Worksheet – Congruent Triangles

NAME _____

Date _____ HR _____

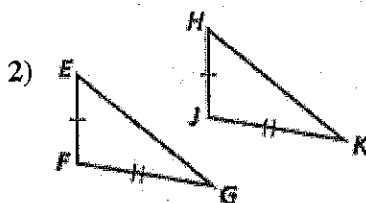
- a) Determine whether the following triangles are congruent.
b) If they are, name the triangle congruence (pay attention to proper correspondence when naming the triangles) and then identify the Theorem or Postulate (SSS, SAS, ASA, AAS, HL) that supports your conclusion.
c) Be sure to show any additional congruence markings you used in your reasoning.
d) If the triangles cannot be proven congruent, state “not possible.” Then given the reason it is not possible.



Congruence:

$$\triangle ABD \cong \triangle \underline{\hspace{2cm}}$$

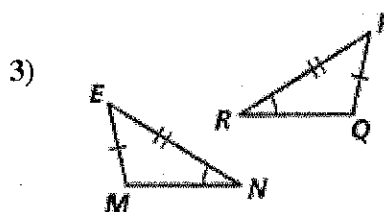
Reason:



Congruence:

$$\triangle EFG \cong \triangle \underline{\hspace{2cm}}$$

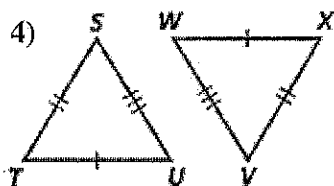
Reason:



Congruence:

$$\triangle EMN \cong \triangle \underline{\hspace{2cm}}$$

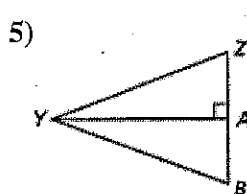
Reason:



Congruence:

$$\triangle STU \cong \triangle \underline{\hspace{2cm}}$$

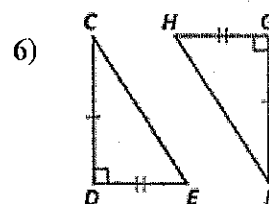
Reason:



Congruence:

$$\triangle YZA \cong \triangle \underline{\hspace{2cm}}$$

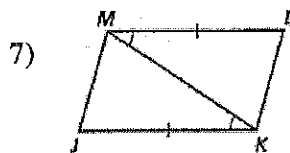
Reason:



Congruence:

$$\triangle CDE \cong \triangle \underline{\hspace{2cm}}$$

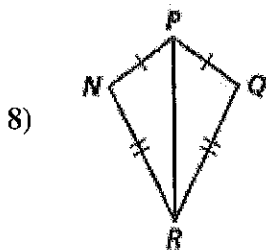
Reason:



Congruence:

$$\triangle KJM \cong \triangle \underline{\hspace{2cm}}$$

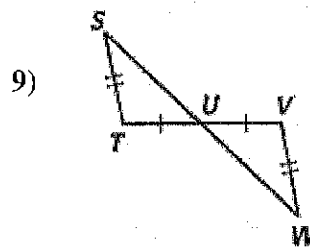
Reason:



Congruence:

$$\triangle NPR \cong \triangle \underline{\hspace{2cm}}$$

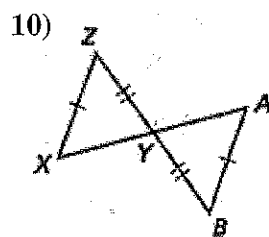
Reason:



Congruence:

$$\triangle STU \cong \triangle \underline{\hspace{2cm}}$$

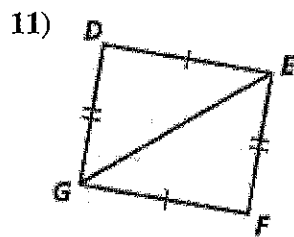
Reason:



Congruence:

$$\triangle XYZ \cong \triangle \underline{\hspace{2cm}}$$

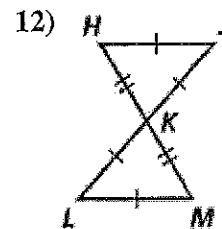
Reason:



Congruence:

$$\triangle DEG \cong \triangle \underline{\hspace{2cm}}$$

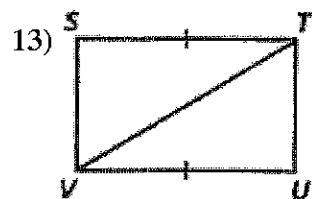
Reason:



Congruence:

$$\triangle HJK \cong \triangle \underline{\hspace{2cm}}$$

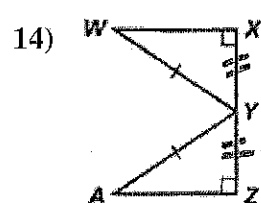
Reason:



Congruence:

$$\triangle STV \cong \triangle \underline{\hspace{2cm}}$$

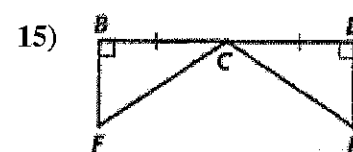
Reason:



Congruence:

$$\triangle WXY \cong \triangle \underline{\hspace{2cm}}$$

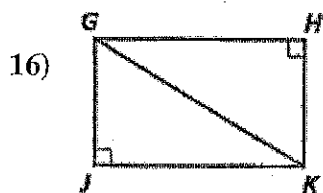
Reason:



Congruence:

$$\triangle BCF \cong \triangle \underline{\hspace{2cm}}$$

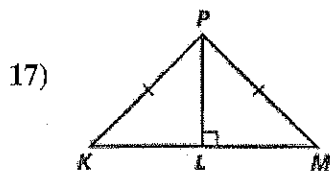
Reason:



Congruence:

$$\triangle GJK \cong \triangle \underline{\hspace{2cm}}$$

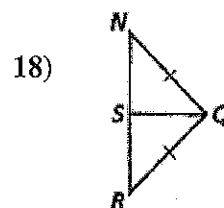
Reason:



Congruence:

$$\triangle KLP \cong \triangle \underline{\hspace{2cm}}$$

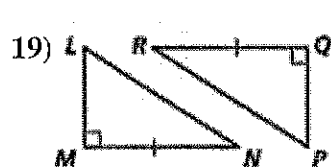
Reason:



Congruence:

$$\triangle NSQ \cong \triangle \underline{\hspace{2cm}}$$

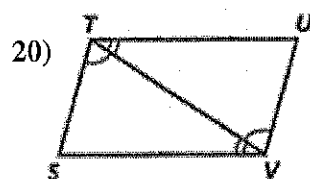
Reason:



Congruence:

$$\triangle LMN \cong \triangle \underline{\hspace{2cm}}$$

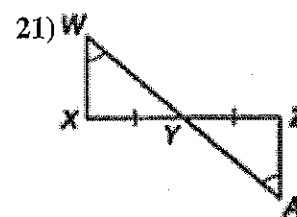
Reason:



Congruence:

$$\triangle STV \cong \triangle \underline{\hspace{2cm}}$$

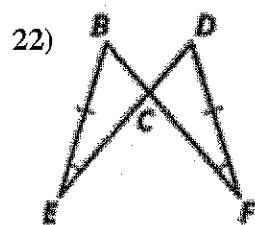
Reason:



Congruence:

$$\triangle WXY \cong \triangle \underline{\hspace{2cm}}$$

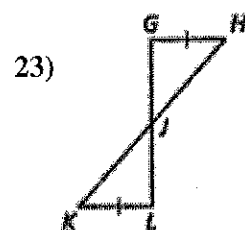
Reason:



Congruence:

$$\triangle BCE \cong \triangle \underline{\hspace{2cm}}$$

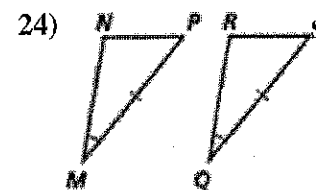
Reason:



Congruence:

$$\triangle GHJ \cong \triangle \underline{\hspace{2cm}}$$

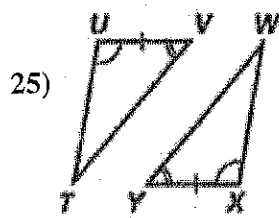
Reason:



Congruence:

$$\triangle NPM \cong \triangle \underline{\hspace{2cm}}$$

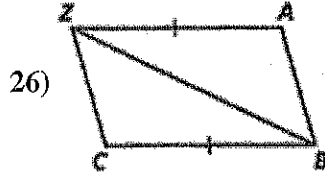
Reason:



Congruence:

$$\triangle TUV \cong \triangle \underline{\hspace{2cm}}$$

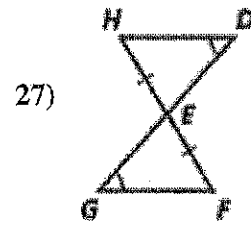
Reason:



Congruence:

$$\triangle ABCZ \cong \triangle \underline{\hspace{2cm}}$$

Reason:

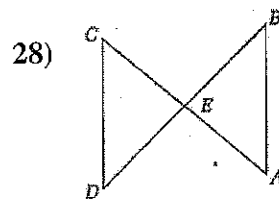


Congruence:

$$\triangle EFG \cong \triangle \underline{\hspace{2cm}}$$

Reason:

Use the given information to mark the diagram appropriately. Name the triangle congruence (pay attention to proper correspondence when naming the triangles) and then identify the Theorem or Postulate (SSS, SAS, ASA, AAS, HL) that would be used to prove the triangles congruent. If the triangles cannot be proven congruent, state "not possible."

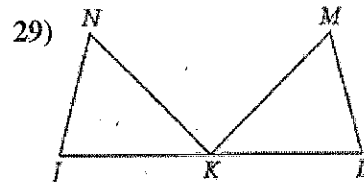


Given: $\overline{CD} \cong \overline{AB}$; $\angle B \cong \angle D$

Congruence:

$$\triangle CDE \cong \triangle \underline{\hspace{2cm}}$$

Reason:

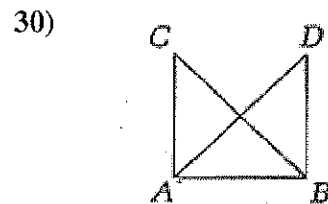


Given: $\overline{JN} \cong \overline{LM}$; $\overline{NK} \cong \overline{MK}$;
 $\angle N \cong \angle M$

Congruence:

$$\triangle JKN \cong \triangle \underline{\hspace{2cm}}$$

Reason:

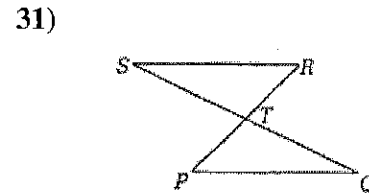


Given: $\overline{AC} \cong \overline{BD}$; $\overline{AD} \cong \overline{BC}$

Congruence:

$$\triangle ABC \cong \triangle \underline{\hspace{2cm}}$$

Reason:



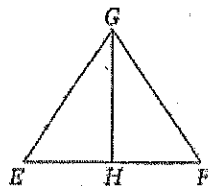
Given: \overline{SQ} and \overline{PR} bisect each other

Congruence:

$$\triangle RST \cong \triangle \underline{\hspace{2cm}}$$

Reason:

32)



Given: \overline{GH} bisects $\angle EGF$;
 $\overline{EG} \cong \overline{FG}$

Congruence: $\triangle EGH \cong \triangle$ _____

Reason:

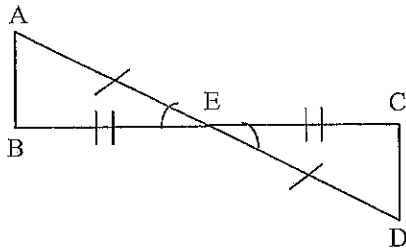
~~Now choose one of the problems from 28-32 and create a flow-chart proof. Then transform your flow chart proof into a 2-column proof. Your "given" will be the "Given" from the problem and your "prove" will be the "Congruence" statement you created.~~

Write a 2 column proof for #s 31 + 32

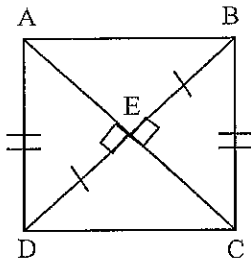
Triangle Congruence Worksheet #2

I. For each pair of triangles, tell which postulate, if any, can be used to prove the triangles congruent.

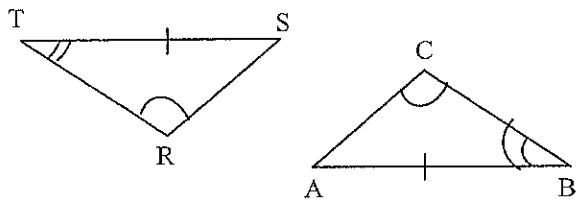
1. $\triangle AEB \cong \triangle DEC$ _____



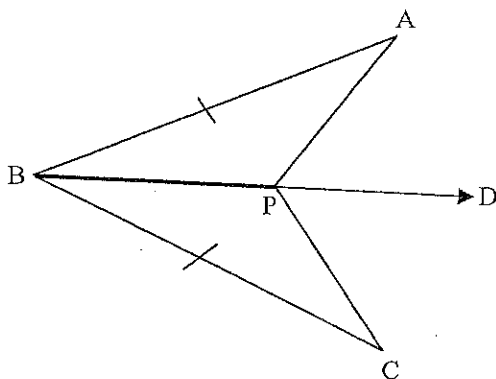
3. $\triangle DEA \cong \triangle BEC$ _____



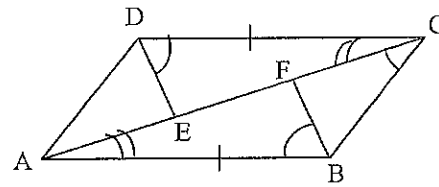
5. $\triangle RTS \cong \triangle CBA$ _____



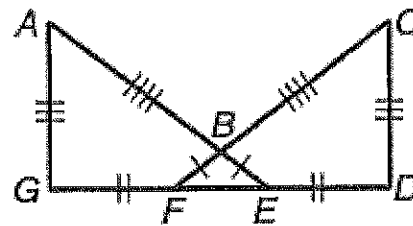
7. $\triangle BAP \cong \triangle BCP$
Given: \overrightarrow{BD} bisects $\angle ABC$ _____



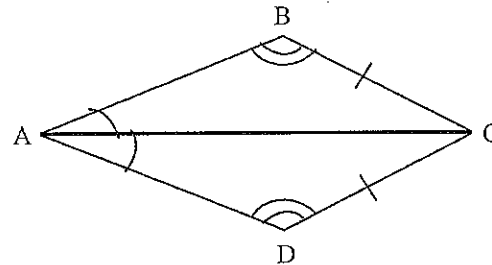
2. $\triangle CDE \cong \triangle ABF$ _____



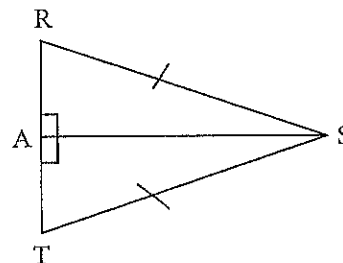
4. $\triangle AGE \cong \triangle CDF$ _____



6. $\triangle ABC \cong \triangle ADC$ _____

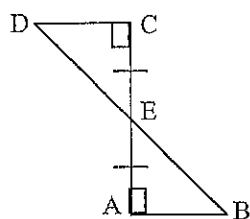


8. $\triangle SAT \cong \triangle SAR$ _____



II. For each pair of triangles, tell: (a) Are they congruent (b) Write the triangle congruency statement. (c) Give the postulate that makes them congruent.

1.

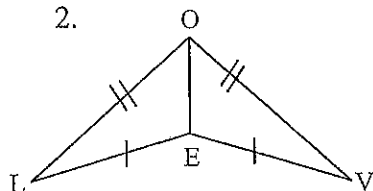


a. _____

b. \triangle _____ \cong \triangle _____

c. _____

2.

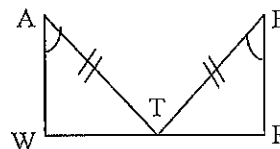


a. _____

b. \triangle _____ \cong \triangle _____

c. _____

3. Given: T is the midpoint of \overline{WR}

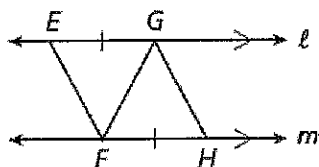


a. _____

b. \triangle _____ \cong \triangle _____

c. _____

4.

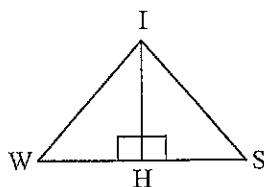


a. _____

b. \triangle _____ \cong \triangle _____

c. _____

5. Given: \overrightarrow{IH} Bisects $\angle WIS$

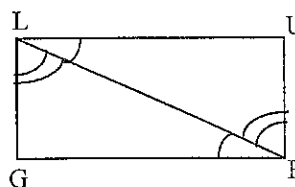


a. _____

b. \triangle _____ \cong \triangle _____

c. _____

6.

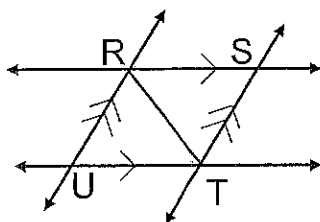


a. _____

b. \triangle _____ \cong \triangle _____

c. _____

7.

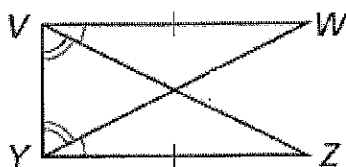


a. _____

b. \triangle _____ \cong \triangle _____

c. _____

8.

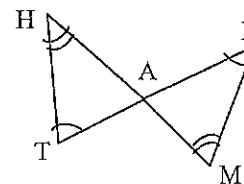


a. _____

b. \triangle _____ \cong \triangle _____

c. _____

9.

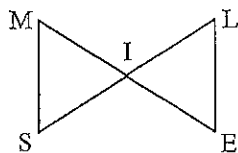


a. _____

b. \triangle _____ \cong \triangle _____

c. _____

10. Given: I is the midpoint
of \overline{ME} and \overline{SL}

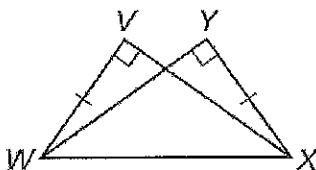


a. _____

b. Δ _____ \cong Δ _____

c. _____

11.

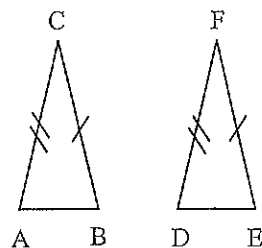


a. _____

b. Δ _____ \cong Δ _____

c. _____

12.



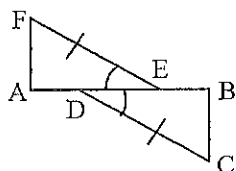
a. _____

b. Δ _____ \cong Δ _____

c. _____

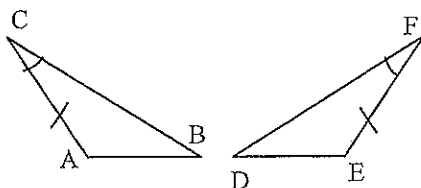
III. Using the given postulate, tell which parts of the pair of triangles should be shown congruent.

1. SAS



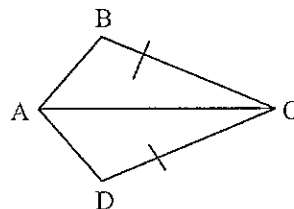
_____ \cong _____

2. ASA



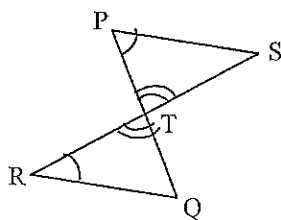
_____ \cong _____

3. SSS



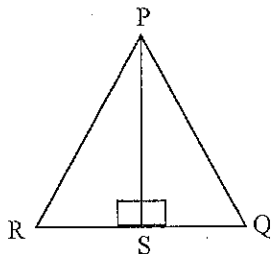
_____ \cong _____

4. AAS



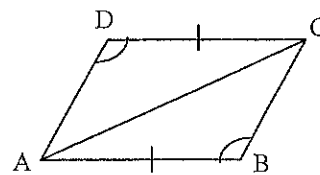
_____ \cong _____

5. HL



_____ \cong _____

6. ASA



_____ \cong _____